In the claims:

1. (Currently Amended) A method of diagnosing a human subject with multiple sclerosis, the method comprising determining a level of expression of ~~at least one gene selected from the group consisting~~each of the genes listed in Tables ~~I-V~~ I or II in a sample obtained from the subject, said sample comprising peripheral blood mononuclear cells, wherein a statistically significant~~substantial~~ difference between ~~said level of~~ expression levels of each of said genes in said sample obtained from said subject and- expression levels of each of said genes in a control sample of peripheral blood cells from a non-diseased subject,~~a normal expression level of said gene~~ is an indication that the human subject is afflicted with multiple sclerosis.

2.-3. (Cancelled)

4. (Currently Amended) The method of claim 1, wherein said ~~substantial difference is a difference~~ statistically significant difference is at a confidence level of p= 0.05 as determined by at least one test selected from the group consisting of a t-test, a TNoM and an INFO score.

5. (Withdrawn) The method of claim 1, wherein said level of expression of said at least one gene is determined by quantifying a level of a protein product thereof in said sample.

6. (Withdrawn) The method of claim 5, wherein quantifying a level of said protein is effected using a reagent which specifically binds with said protein.

7. (Withdrawn) The method of claim 6, wherein said reagent comprises an antibody or fragments thereof.

8. (Withdrawn) The method of claim 1, wherein said at least one gene is selected from the genes listed in Table I.

9. (Cancelled)

10. (Withdrawn) The method of claim 1, wherein said at least one gene is selected from the genes listed in Table III.

11. (Withdrawn) The method of claim 1, wherein said at least one gene is selected from the genes listed in Table IV.

12. (Withdrawn) The method of claim 1, wherein said at least one gene is selected from the genes listed in Table V.

13. (Original) The method of claim 1, wherein the level of expression of said at least one gene in said sample is determined by detecting the presence in said sample of a transcribed polynucleotide or portion thereof.

14. (Original) The method of claim 13, wherein said transcribed polynucleotide is mRNA.

15. (Original) The method of claim 13, wherein said transcribed polynucleotide or portion thereof is detected via a labeled probe which specifically hybridizes with said transcribed polynucleotide or portion thereof.

16. (Withdrawn) The method of claim 1, wherein said sample from a subject is T cells, and said at least one gene is selected from the genes listed in Table IV and whereas said normal expression of said gene is T-cell expression.

17. (Withdrawn) The method of claim 16, wherein said substantial difference is at least a 1.5 fold change.

18.-21. (Cancelled)

22. (Withdrawn) The method of claim 1, wherein said at least one gene comprises at least 500 genes each independently selected from the group consisting of the genes listed in Tables I-V.

23. (Withdrawn) The method of claim 1, wherein said at least one gene comprises at least 750 genes each independently selected from the group consisting of the genes listed in Tables I-V.

24. (Withdrawn) The method of claim 1, wherein said at least one gene comprises at least 1000 genes each independently selected from the group consisting of the genes listed in Tables I-V.

25. (Withdrawn) The method of claim 1, wherein said at least one gene comprises at least 1200 genes each independently selected from the group consisting of the genes listed in Tables I-V.

26. (Withdrawn) A method of diagnosing a subject with multiple sclerosis, the method comprising the step of determining a level of expression of each of the genes listed in Tables I-V in a sample obtained from the subject, wherein a substantial difference between expression levels of said genes in said sample obtained from said subject and normal expression levels of said genes is an indication that the subject is afflicted with multiple sclerosis.

27. (Withdrawn) The method of claim 26, wherein said normal expression levels of said genes is determined by measuring said level of expression of said genes in at least one control sample obtained from at least one healthy individual.

28. (Withdrawn) The method of claim 29, wherein said sample includes peripheral blood mononuclear cells.

29. (Withdrawn) The method of claim 26, wherein said substantial difference is a difference statistically significant at a confidence level of p= 0.05 as determined by at least one test selected from the group consisting of a t-test, a TNoM and an INFO score.

30. (Withdrawn) The method of claim 26, wherein said level of expression of said genes is determined by quantifying a level of a protein product thereof in said sample.

31. (Withdrawn) The method of claim 30, wherein quantifying a level of said protein is effected using a reagent which specifically binds with said protein.

32. (Withdrawn) The method of claim 31, wherein said reagent comprises an antibody or fragments thereof.

33. (Withdrawn) The method of claim 26, wherein the level of expression of said genes in said sample is determined by detecting the presence in said sample of a transcribed polynucleotide or portion thereof.

34. (Withdrawn) The method of claim 33, wherein said transcribed polynucleotide is mRNA.

35. (Withdrawn) The method of claim 34, wherein said transcribed polynucleotide or portion thereof is detected via a labeled probe which specifically hybridizes with said transcribed polynucleotide or portion thereof.

36.-113. (Cancelled)